

Amendments to the Claims:

This Listing of Claims replaces all prior versions and Listings of Claims in the application.

Listing of Claims:

1. (Currently Amended) Method A method of determining a refractive index of an object compared to a refractive index of a surrounding medium, wherein said method comprising:

exposing said sample object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength;

to obtain detecting said interference forming a hologram[[],];

analyzing the hologram for phase information[[],]; and

determining if the refractive index of the object is higher or lower than the refractive index of the surrounding medium based on said phase information.

2. (Currently Amended) The method as claimed in claim 1, wherein said the step of analyzing and the step of determination determining are performed by a computer.

3. (Currently Amended) The method as claimed in claim 1, wherein said object comprising comprises particles of a first sub-stance substance having a first refractive index and a second sub-stance substance having a second refractive index and a medium having a refractive index between said first and second refractive index[[],], said method further comprising:

counting the number of particles having a first refractive index and counting the number of particles having a second refractive index in a specific area of said sample object.

4. (Currently Amended) A device for determining refractive index of an object compared to a refractive index of a surrounding medium, wherein said device comprising:

a laser source for exposing said sample object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength;

a detector for detecting said interference forming to obtain a hologram[,
a computer for analyzing the hologram for phase information, and for determining if the
refractive index of the object is higher or lower than the refractive index of the surrounding
medium based on said phase information.

5. (Currently Amended) The device as claimed in claim 4, wherein said object comprising comprises particles of a first sub[-]stance having a first refractive index and a second sub[-]stance having a second refractive index and a medium having a refractive index between said first and second refractive index; and wherein,

said computer is arranged to count the number of particles having a first refractive index and the number of particles having a second refractive index.

6. (Currently Amended) Computer A computer program arranged on a tangible computer readable medium for execution on a computer, the computer program including instructions which, when executed, perform the method of claim 1 for performing at least one of the method steps claim 1.

7. (Currently Amended) Use of the The method of claim 1 for the separation further comprising separating particles in a particle blend and counting particles in a particle blend.

8. (Currently Amended) Use of the The method of claim 1, further comprising for calculating the volume ratio between particles in a particle blend.